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ABSTRACT

This study investigated the theoretical concept of attachments to parents as having pervasive influence on psychological adaptation into young adulthood. Specifically, traditional-age college students' perceptions of separate attachments to their mothers and fathers were related to students' elf-reported explanatory style and empathy. Using a survey methodology, data were collected and analyzed from 362 college students who attended a Midwestern university. Results of a multiple regression supported the hypothesis that parental attachments, assessed by the Inventory of Parent Attachments, were positively related to explanatory style. Davis' Interpersonal Reactivity Index was used to assess cognitive empathy and emotional empathy. The hypothesized relationship between Mother Attachment and empathy was partially supported: Mother Attachment was positive related to perspective-taking and empathic concern. However, Father Attachment was negatively related to personal distress. Unexpectedly, personal distress emerged as the single best predictor of positive-negative explanatory style. Participants' written responses on the Attributional Style Questionnaire were qualitatively analyzed. Six attributional themes were identified, which, when analyzed, revealed notable gender differences. (Contains 40 references and 14 tables.) (Author)

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Perceptions of Parent-child Attachments: Relationships With Explanatory Style and Empathy

By

David R. Webster, Ph.D.

A Poster:

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Abstract

PERCEPTIONS OF PARENT-CHILD ATTACHMENTS:

RELATIONSHIPS WITH EXPLANATORY STYLE AND EMPATHY

This study investigated the theoretical concept of attachments to parents as having pervasive influence on psychological adaptation into young adulthood. Specifically, traditional-age (approximately 18 to 23) college students' perceptions of separate attachments to their mothers and fathers were related to students' self-reported explanatory style and empathy.

Using a survey methodology, data were collected and analyzed from 362 college students (women: 288, men: 74; ages 18 to 23) who attended a Midwestern university. Students from a variety of undergraduate courses received course credit for their participation in the study.

Results of a multiple regression supported the hypothesis that parental attachments, assessed by the Inventory of Parent Attachments (IPA; Armsden & Greenberg, 1989), were positively related to explanatory style. Davis' (1980) Interpersonal Reactivity Index (IRI) was used to assess cognitive empathy (Perspective-Taking [PT]) and emotional empathy (Empathic Concern [EC], Personal Distress [PD]). The hypothesized relationship between Mother Attachment and empathy was partially supported: Mother Attachment was positively related to PT and EC. However, Father Attachment was negatively related to PD. Unexpectedly, PD emerged as the single best predictor of positive-negative explanatory style.

Participants' written responses on the Attributional Style Questionnaire (ASQ; Peterson et al., 1982) were qualitatively analyzed. Six attributional themes were identified, which, when analyzed, revealed notable gender differences.

Introduction

Traditionally, young adulthood has been viewed as a time of increased separation from parents in order to achieve personal independence (Blos, 1972; Douvan & Adelson, 1966). In addition, Erikson (1968) stated that during young adulthood the focal task is on forming intimate relationships with peers. However, in a counterpoint to the theoretical consensus on adolescent individuation, other research states that parents, and not peers, are the most influential figures throughout adolescence and into young adulthood (e.g., Greenberg, Siegel, & Leitch, 1983; Rosenberg, 1979; Smith, 1976).

In classical attachment theory (Bowlby, 1969/1982, 1973, 1980, 1988), parental attachments are believed to form the basis of a cognitive framework for psychological development and interpersonal functioning. A focus of the present study was on the perceived influence of parental attachments on young adult adaptation. Two such socially adaptive variables were investigated, namely, explanatory style and empathy.

A review of the literature revealed very few studies that have compared the relationship between attachment style and empathy, and virtually no studies that have investigated (a) perceptions of the parent-child relationship and explanatory style, and (b) parental attachments and empathy in traditional-age college students (c.f., Greenberger & McLaughlin, 1998). While previous research (Houston, 1990; Regan & Totten, 1975) has established some connection between attributions and empathy, there appear to be no studies that have investigated explanatory style and empathy. Thus, an investigation of the relationships among descriptions of the parent-child relationship, explanatory style, and empathy addressed these connections with the goal to contribute additional knowledge about young adult adaptation.

Purpose of the Study

The purpose of this study was to investigate the relationships among perceptions of parental attachments, explanatory style, and empathy in traditional-age college students. Specifically, the researcher was interested in investigating whether internal models, presumed to derive from primary attachment relationships with parents, were related to factors in interpersonal functioning. Again, explanatory style and empathy were two such variables and were of interest in part because they originate from interpersonal antecedents. Further, explanatory style and empathic ability appear to be vital for personal and interpersonal adaptation. Because of this likelihood, it was suspected that explanatory style and empathy would be highly schematized as mental representations and would be associated with primary attachment relationships.

Method

Participants

Undergraduates (freshmen through seniors) from a Midwestern university, from sections of several undergraduate courses, participated in the study: The students came chiefly from Educational Psychology, Psychology, Sociology departments, many of whom received course credit for participating in the study.

Four hundred and one sets of questionnaires were completed. Of these, seven cases were considered invalid because of incomplete responses on the forms. Thus, 394 participants, mean age 20.84 years, with the participants ranging in age from 18 to 43, participated in the study. In order to eliminate unwanted age effects, only the students ranging in age from 18 to 23 (mean age = 20.16) were identified as traditional-age college students (N = 362). The remaining students, age 24 and older (n = 32), were eliminated from the main analyses. Table 1 summarizes additional participant demographic information. Table 2 provides means and standard deviations for the analyses.

Table 1
Summary of Demographic, Interpersonal, and Family Characteristics of Participants

Variables	N = 362	%	Median
Demographic Characteristics			
Gender			
Female	288	79.6	
Male	74	20.4	
Race/Ethnicity			
Caucasian	327	90.3	
African American	5	1.4	
Asian	11	3.0	
Hispanic	16	4.4	
Other	3	0.8	
Year in College			Junior
Freshman	27	7.5	
Sophomore	132	36.5	
Junior	108	29.8	
Senior	93	25.7	
Undeclared	2	0.6	

Table 1 continues

Table 1
Summary of Demographic, Interpersonal, and Family Characteristics of Participants

Interpersonal Characteristics	N = 362 Women (n=288)	Men (n=74)	% Women (n=288)	Men (n=74)	Range	Median
Marital Status						
Single	276	73	96.2	98.6		
Married	11	1	3.8	1.4		
Missing	1		0.3			
Number of People Dated In the Past Six Months					0 - 24	1.00
Are You Presently in a Long-term Relationship?						
Yes:	165	37	57.3	50.0		
No:	123	37	42.7	50.0		
Do You Have a Girlfriend?						
Yes:	1	41	.3	55.4		
No:	287	33	99.7	44.6		
Do You Have a Boyfriend?						
Yes:						
No:	170	4	59.2	5.5		
Undeclared	117	69	40.8	94.5		
Number of Your Female Friends					0 - 25	5.00
Number of Your Male Friends					0 - 30	4.00

Table 1 Continues

Table 1

Summary of Demographic, Interpersonal, and Family Characteristics of Participants

Family Characteristics	N = 362		%			Median
	Women (n = 288)	Men (n = 74)	Women (n = 288)	Men (n = 74)	Range	
Mother						
Living	282	74	97.9	100		
Deceased	6	0	2.1	0		
Father						
Living	278	74	96.5	100		
Deceased	10	0	3.5	0		
Age of Participant:						
Mother's Death					3 - 19	9.00
Father's Death					4 - 19	14.00
Parents' Marital Status						
Married	223	57	77.7	77.0		
Separated	8	1	2.8	1.4		
Divorced	50	16	17.4	21.6		
Widowed	6	0	2.1	0		
Undeclared	1		.03			
Age of Participant When Parents Were Separated or Divorced					1 - 21	7.50
Siblings						
Brothers					0 - 5	1.00
Half-brothers					0 - 4	0
Step-brothers					0 - 3	0
Sisters					0 - 5	1.00
Half-sisters					0 - 4	0
Step-sisters					0 - 5	0

Table 2
Means and Standard Deviations of Variables Measured

Variables	M	SD	Range of Scores
Mother Attachment	103.26	16.80	47 - 141
Father Attachment	94.79	20.77	28 - 125
Explanatory Style			
Composite Positive	15.97	1.82	10.67 - 20.17
Composite Negative	12.77	1.89	7 - 18.33
Composite Positive-Composite Negative	3.49	2.22	.00 - 10.83
Empathy			
Perspective-Taking	24.94	5.09	9 - 35
Empathic Concern	28.53	3.93	16 - 35
Personal Distress	18.39	4.73	7 - 33

Note. N = 362. Scale range and number of items per measure: (a) IPA: range, 25 to 125 points, 25 items per subscale (Mother Attachment, Father Attachment); (b) ASQ (Composite Positive subscale and Composite Negative subscale): range, 3 to 21 points, 18 items per subscale; (c) ASQ (Composite Positive-minus-Composite Negative [CPCN]): range, -18 through +18 points; the CPCN subscale is created by substracting Composite Positive from Composite Negative; thus the CPCN subscale is not defined by a specific number of items; (d) IRI: Each subscale (Perspective-Taking, Empathic Concern, Personal Distress) is composed of a range of 7 to 35 points with 7 items per subscale.

Instruments

Participants completed three measures: (a) the Inventory of Parent Attachments (IPA; Armsden & Greenberg, 1989), (b) the Attributional Style Questionnaire (ASQ; Peterson et al., 1982), and (c) the Interpersonal Reactivity Index (IRI; Davis, 1980). All three instruments are self-report measures based on Likert-type response formats. However, the ASQ also prompts participants to write causes to hypothetical situations as a means of cuing their Likert-type responses.

Variables

Three overall variables were used in the study: Parental Attachments, Explanatory Style, and Empathy. Each variable was measured by three self-report questionnaires which together comprised a total of eight subscales: (a) Mother Attachments, (b) Father Attachments, (c) Positive Explanatory Style, (d) Negative Explanatory Style, (e) Overall Explanatory Style, (f) Perspective-Taking (cognitive empathy); and two subscales for emotional empathy: (g) Empathic Concern, and (h) Personal Distress.

There were five predictor variables: (a) Mother Attachments, (b) Father Attachments, (c) Perspective-

Taking, (d) Empathic Concern, and (e) Personal Distress. There were six dependent variables: (a) overall explanatory style, (b) positive explanatory style, (c) negative explanatory style, (d) Perspective-Taking, (e) Empathic Concern, and (f) Personal Distress. It is worth noting that indices of explanatory style were formed from composite scores derived from the separate dimensions of attribution style: internality, stability, and globality.

Table 3 presents a summary of the internal consistencies of the instruments used in the present study and Cronbach's alpha reported from other studies which used the instruments in juxtaposition. Tables 4 and 5 which follow report the correlations among the measures of the predictor variables and criterion variables, respectively.

Table 3

Comparisons of Instrument Reliabilities for Mother Attachment, Father Attachment, Explanatory Style, and Empathy

	Cronbach's Alpha		
Instruments	Previous Studies		Present Study
Parental Attachments:			
Mother Attachment	.87[a]	.94[b]	.95
Father Attachment	.89[a]	.94[b]	.97
Explanatory Style:			
Internality Positive	.50[c]	.40[d]	.47
Stability Positive	.58[c]	.67[d]	.47
Globality Positive	.44[c]	.66[d]	.52
Internality Negative	.46[c]	.52[d]	.31
Stability Negative	.59[c]	.58[d]	.60
Globality Negative	.69[c]	.52[d]	.62
Composite Positive	.75[c]	.69[d]	.73
Composite Negative	.72[c]	.73[d]	.69
Composite Positive-Composite Negative	.78[e]	.76[f]	.69
Empathy:			
Perspective-Taking	.73[g]	.73[h]	.83
Empathic Concern	.71[g]	.74[h]	.76
Personal Distress	.76[g]	.73[h]	.78

Note. [a]Armsden and Greenberg (1989), [b]Paterson, Pryor, and Field, (1995), [c]Peterson et al. (1982), [d]Sweeney, Shaeffer, and Golin (1982), [e]Eisner (1995), [f]Greenberger and McLaughlin (1998), [g]Davis (1980), [h]Henry, Sager, and Plunkett, (1996).

Table 4

Correlations Among Predictor Variables on Measures for Mother Attachment, Father Attachment, and Empathy (Perspective-Taking, Empathic Concern, Personal Distress)

Measures	1	2	3	4	5
Parental Attachments					
Mother Attachment	—				
Father Attachment	.42**	—			
Empathy					
Perspective-Taking	.19**	.17**	—		
Empathic Concern	.23**	.15**	.54**	—	
Personal Distress	-.13*	-.11*	-.15**	-.01	—

Note. N = 362. *p < .05, **p < .01.

Table 5

Correlations Among Criterion Variables on Measures for Explanatory Style (Composite Positive, Composite Negative, Composite Positive minus Composite Negative) and Empathy (Perspective-Taking, Empathic Concern, Personal Distress)

Measure	1	2	3	4	5	6
Explanatory Style						
Composite Positive	—					
Composite Negative	-.003	—				
Composite Positive-Composite Negative	.59**	-.67**	—			
Empathy						
Perspective-Taking	.11*	-.16**	.20**	—		
Empathic Concern	.09	-.19**	.22**	.54**	—	
Personal Distress	-.15**	.23**	-.22**	-.15**	-.01	—

Note. N = 362. *p < .05, **p < .01.

Design

This was a survey study which used a between-groups independent sample factorial design to investigate the differences among female and male college undergraduates' self-reported (a) perceived mother attachments, (b) perceived father attachments, (c) explanatory style, (d) cognitive empathy (Perspective-Taking), and (e) emotional empathy (Empathic Concern, Personal Distress). For purposes of analysis, self-reported, non-parental attachments were treated as mother attachment relationships or father attachment relationships, dependent on the sex of the non-parental caregivers. Multicollinearity among predictor variables was examined prior to performing multiple regressions for parental attachments and explanatory style and empathy, and empathy and explanatory style.

Hypotheses

1. Mother attachment security and father attachment security would positively predict explanatory style

2. Mother attachment security would explain a greater amount of variance than father attachment security for Perspective-Taking, Empathic Concern, and Personal Distress

3. Perspective-Taking and Empathic Concern would explain a greater amount of the variance than Personal Distress for positive explanatory style. Conversely, Personal Distress would explain a greater amount of the variance

Ancillary Questions

Several ancillary analyses were conducted to explore whether differences existed between women and men on the variables of interests. The first three ancillary analyses were focused specifically on possible sex differences and the variables of interest. Several independent two-tailed t tests were performed to address the first three ancillary questions regarding possible sex differences. Prior to performing the analyses, a random sample of 74 women was taken to create a paired-comparison with the 74 men. A fourth ancillary question investigated whether or not repetitive themes emerged based on the written explanations for the ASQ situations provided by participants in the study. Finally, an incidental analysis was conducted in which a random sample of traditional-age students (n = 32; average age = 19.44) was related to the non-traditional students (n = 32; average age = 28.5) to explore whether any differences emerged between the two groups in the variables of interest to the study.

Results

Results of a multiple regression supported the hypothesis that parental attachments, assessed by the

Inventory of Parental Attachments (IPA; Armsden & Greenberg, 1989), were positively related to explanatory style, as measured by the Attributional Style Questionnaire (ASQ; Peterson et al., 1982). See Table 6. The results indicated that Mother Attachment and Father Attachment significantly predicted explanatory style in the hypothesized direction. Mother Attachment accounted for the bulk of the variance explained ($t = 4.02$, $p < .001$), while Father Attachment did not significantly predict explanatory style ($t = .13$, $p = .91$).

Table 6

Summary of the Forced-Entry Multiple Regression Analysis for Variables Predicting Explanatory Style (Composite Positive minus Composite Negative)

Variable	B	SE B	β	t
Mother Attachment	3.03	.008	.228	4.02***
Father Attachment	7.69	.006	.007	.13

Note. Total $R^2 = .05$ ($N = 362$, ***$p < .001$).

Davis' (1980) Interpersonal Reactivity Index (IRI) was used to assess cognitive empathy (Perspective-Taking) and emotional empathy (Empathic Concern, Personal Distress). The hypothesized relationship between mother attachment and empathy was partially supported: Mother attachment was positively related to cognitive empathy (Perspective-Taking) and emotional empathy (Empathic Concern). See Tables 7 - 9. However, results showed that Mother Attachment did not significantly predict Personal Distress. Rather, results indicated that Father Attachment was significantly and negatively related to Personal Distress ($t = -2.02$, $p < .05$).

Table 7

Summary of the Two-Step Hierarchical Multiple Regression Analysis for Variables Predicting Perspective-Taking

Variable	B	SE B	β	t	R^2	R^2 Change
Step 1					.027	.027
(Constant)	21.08	1.24		17.06		
Father Attachment	4.04	.013	.165	3.17**		
Step 2						.018
(Constant)	17.93	1.74		10.31		
Father Attachment	2.52	.014	.10	1.81		
Mother Attachment	4.48	.017	.147	2.58**		

Note. Total R^2 = .05. N = 362 (**p = .01).

Table 8

Summary of the Two-Step Hierarchical Multiple Regression Analysis for Variables Predicting Empathic Concern

Variable	B	SE B	β	t	R^2	R^2 Change
Step 1					.021	.021
(Constant)	25.93	.957		27.11		
Father Attachment	2.74	.010	.145	2.78**		
Step 2						.035
(Constant)	22.48	1.33		16.87		
Father Attachment	1.09	.011	.058	1.02		
Mother Attachment	4.86	.013	.207	3.66***		

Note. Total R^2 = .06. N = 362 (**p < .01, ***p = .001).

Table 9

Summary of the Two-Step Hierarchical Multiple Regression Analysis for Variables Predicting Personal Distress

Variable	B	SE B	β	t	R^2	R^2 Change
Step 1					.011	.011
(Constant)	20.68	1.16		17.85		
Father Attachment	-2.41	.012	-.106	-2.02*		
Step 2						.008
(Constant)	22.64	1.64		13.83		
Father Attachment	-1.47	.013	-.065	-1.12		
Mother Attachment	-2.76	.016	-.098	-1.69		

Note. Total R^2 = .02. N = 362 (*p < .05).

Results of the analysis of hypothesis three were unexpected: Personal Distress emerged as the single best predictor of negative explanatory style ($t = 4.24$, $p < .001$) and positive explanatory style ($t = -2.58$, $p < .01$). Notably, Perspective-Taking and Empathic Concern were significantly and negatively related to negative explanatory style. Even so, Personal Distress emerged as the strongest predictor. See Tables 10 and 11.

Table 10

Summary of the Three-Step Hierarchical Multiple Regression Analysis for Variables Predicting Composite Negative Explanatory Style

Variable	B	SE B	β	t	R^2	R^2 Change
Step 1					.025	.025
(Constant)	14.23	.491		28.97		
Perspective-Taking	-5.86	.019	-.158	-3.04**		
Step 2						.015
(Constant)	15.50	.726		21.34		
Perspective-Taking	-3.01	.023	-.081	-1.33		
Empathic Concern	-6.92	.029	-.144	-2.35**		
Step 3						.046
(Constant)	13.78	.816		16.88		
Perspective-Taking	-1.40	.023	-.038	-.62		
Empathic Concern	-7.92	.029	-.165	-2.74**		
Personal Distress	8.68	.020	.217	4.24***		

Note. Total $R^2 = .09$. $N = 362$ (**$p < .01$, ***$p \leq .001$).

Table 11

Summary of the Three-Step Hierarchical Multiple Regression Analysis for Variables Predicting Composite Positive Explanatory Style

Variable	B	SE B	β	t	R^2	R^2 Change
Step 1					.021	.021
(Constant)	17.00	.380		44.78		
Personal Distress	-5.60	.020	-.146	-2.80**		
Step 2						.007
(Constant)	15.86	.787		20.14		
Personal Distress	5.56	.020	-.145	-2.79**		
Empathic Concern	3.99	.024	.086	1.66		
Step 3						.003
(Constant)	15.68	.807		19.42		
Personal Distress	-5.23	.020	-.136	-2.58**		
Empathic Concern	2.49	.029	.054	.87		
Perspective-Taking	2.17	.022	.061	.98		

Note. Total R^2 = .03. N = 362 (**p < .01).

Few gender differences were observed between men's and women's endorsements of mother-father attachments, explanatory style and empathy. See Table 12. In sum, results showed that women scored significantly higher for Empathic Concern, t (146) = 5.43, p < .001, and for Personal Distress, t (146) = 3.09, p = .002 than men did.

Table 12

Sex Differences Based on Measures of Mother Attachment, Father Attachment, Explanatory Style (Composite Positive, Composite Negative), and Empathy (Perspective-Taking, Empathic Concern, Personal Distress)

	Women (n = 74)		Men (n = 74)			
Variables	M	SD	M	SD	t (df = 146)	Cohen's δ
Mother Attachment	103.85	16.97	100.88	15.86	1.10	
Father Attachment	94.84	23.02	90.85	19.13	1.15	
Explanatory Style:						
Composite Positive	15.84	1.95	16.12	1.71	-0.93	
Composite Negative	12.59	1.91	12.83	1.92	-0.77	
Empathy:						
Perspective-Taking	25.82	5.72	23.89	4.76	2.23	
Empathic Concern	29.68	3.48	26.31	4.03	5.43*	.90
Personal Distress	19.31	4.96	16.85	4.71	3.09*	.51

*p < .007 with Bonferroni adjustment.

Participants' written responses on the ASQ were qualitatively analyzed. Six attributional themes were identified: Self-Traits, Self-Behaviors, Other's-Traits, Other's-Behaviors, Relationships, and Circumstances. Notable distinctions emerged between men and women on the themes. Overall, women wrote more relationship-based causes (41%) than men did (31%). Men endorsed more self-based causes (Self-Traits, Self-Behaviors) than women at more than a 4:1 ratio. A select number of z tests were conducted to analyze the themes. A Bonferroni method was used to lower the significance level ($p \leq .007$) to counter the possibility of Type I errors. See Tables 13 and 14 for a summary and analyses of the themes.

Finally, results indicated that the traditional-age group perceived significantly stronger attachments to their mothers than the older group of students did, $t(62) = 3.41$, $p = .001$), $\delta = .88$, which is considered a large effect size (Cohen, 1992). Results of the t tests also indicated that there were no significant differences between the two groups of participants on Father Attachment, Perspective-Taking, Empathic Concern, Personal Distress, Composite Positive Explanatory Style, and Composite Negative Explanatory Style.

Table 13

Frequency of Types of Explanations Made by Participants for Interpersonal Situations and Achievement Situations of Positive and Negative Valences.

Types of Explanations:	Self-Traits	Self-Behaviors	Other's-Traits	Other's-Behaviors	Relationships	Circumstances	[1]Total Responses
Interpersonal Positive	1.4	57.7	2.1	23.4	8.2	7.1	1081
Interpersonal Negative	2.1	36	3.7	13.2	22.7	22.3	1083
Achievement Positive	1.5	74.7	0.1	5.5	2.7	15.6	1082
Achievement Negative	3.7	63.5	2.2	17	0.9	14.1	1085

Note. N = 362. The numbers represent the percentages of total participants who were associated with the causal themes.[1]Total Responses are based on the total number of participant responses for all questions comprising each type and valence of situation. For instance, three questions comprise each type and valence of situation. Thus, the potential number of responses for all participants (N = 362) on each type and valence of situation would be 1086 responses, respectively.

Select z tests:

1. Results indicated that the number of Self-Behaviors for Interpersonal situations was significantly greater than Other's-Behaviors ($Z = 20.07$, $p < .00001$).
2. Results also indicated that the number of Self-Behaviors for Achievement situations was significantly greater than Circumstances for Achievement situations ($Z = 35.73$, $p < .00001$).

Table 14

Frequency of Types of Explanations Made by Male and Female Participants for Interpersonal Situations and Achievement Situations of Positive and Negative Valences.

Types of Explanations:		Self-Traits	Self-Behaviors	Others-Traits	Others-Behaviors	Relationships	Circumstances	[1]Total Responses
Interpersonal Positive	Female	0	56.3	3.2	22.1	11.3	7.2	221
	Male	3.2	68.5	1.4	13.5	8.6	5	222
Interpersonal Negative	Female	1.4	36.5	3.2	12.6	25.3	21.2	222
	Male	4.5	38.4	5	9.9	17.3	24.8	221
Achievement Positive	Female	0.5	73.4	0	6.8	2.3	17.1	222
	Male	4.1	74.3	0.5	3.2	3.2	14.9	221
Achievement Negative	Female	2.3	65.1	0.9	17.3	1.4	13.1	221
	Male	6.8	57.2	1.4	14.4	1.8	18.5	222

Note. N = 148 (Men = 74; Women = 74, based on a randomized sub-sample of 74 women from a total sample of n = 288 women). The numbers represent the percentages of total women and total men who were associated with each causal theme, respectively. [1]Total Responses are based on the total number of participant responses for all questions comprising each type and valence of situation. For instance, three questions comprise each type and valence of situation. Thus, the potential number of responses for all women (n = 74) and men (n = 74) for each type and valence of situation would be 222 responses, respectively.

Select z tests:

1. Men had a significantly greater number of Self-Behaviors than women ($Z = 2.65$, $p < .004$).
2. The observed responses between women and men for Self-Behaviors were not significantly different ($Z = 1.70$, $p < .04$).
3. Women and men did not differ significantly for causes related to Other's-Traits ($Z = .35$, $p < .36$) and Circumstances ($Z = .81$, $p < .20$).
4. Women did not write significantly more causes than men did ($Z = 2.13$, $p < .01$) for Relationships on positive and negative Interpersonal situations.
5. Women's causes for Other's-Behaviors on all valences and types of situations were significantly greater than men's written causes ($Z = 15.88$, $p < .00001$).
6. Men wrote in significantly more causes that pertained to Self-Traits, across all valences and types of situations, than women wrote at a ratio of more than 4:1 ($Z = 4.59$, $p < .00001$).

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Discussion

Hypothesis One

The results of the analysis supported the hypothesized relationship; however, only attachments to mothers were related to overall explanatory style. This finding lends some support to Seligman (1991) who hypothesized that maternal explanatory style is a precursor of child dispositional optimism-pessimism, which is presumed to be a component of the child-mother attachment.

Hypothesis Two

As predicted, mother attachments were significantly related to Perspective-Taking and Empathic Concern when significant father attachments were controlled. However, the findings in the literature are equivocal on whether quality of mother attachments is related to empathic ability. The bulk of evidence has focused on young children's empathy and attachment bonds to their mothers and fathers. The present study appears to stand alone in providing some tentative information about the enduring strength of perceived attachments to mothers and fathers and empathy among college students.

The hypothesized relationship between mother attachments and Personal Distress was not supported. In this instance, only father attachments remained a significant and negative predictor of Personal Distress. Recalling Davis' (1980) definition of Personal Distress, this aspect of empathy pertains to reactions of emotional discomfort (anxiety, sadness) in the face of someone else's strong emotion or distress. Personal Distress also may be seen as a measure of social discomfort in the face of such emotionally charged interpersonal situations. Related research findings indicate that college students' perceived attachments to their fathers were related to their scores on social competence and emotional well-being (O'Koon, 1997; Rice, Cunningham, & Young, 1997; c.f., also Kerns & Stevens, 1996; Schneider and Younger, 1996). Results of the present study appear to provide some tentative evidence that perceived quality of attachments to fathers is related to empathic functioning, as distinct from attachments to mothers.

Hypothesis Three

Results were mixed when empathy and explanatory style were related. In sum, only Personal Distress remained a significant and negative predictor of positive explanatory style. While unanticipated, this finding is in accord with Hoffman's (1984) theory that empathic distress (i.e., Personal Distress) would connote a passive and involuntary sharing of negative affect between two persons, and theoretically would stand in stark contrast to a

positive explanatory style which is a more active and positive response to oneself and to others.

The second portion of the hypothesis was supported in that Personal Distress was found to significantly and positively predict negative explanatory style (Composite Negative). Again, based on Hoffman's conceptualization of Personal Distress, it seems reasonable to propose that empathic distress would be more related to a tendency toward a negative outlook on life.

Ancillary Question One

There were no significant differences between women and men on perceived quality of attachments to mothers or fathers. The majority of studies do not converge on consistent differences between college women and college men on either maternal or paternal attachments. It is more likely, however, that many other factors impinge on whether men and women differ on their perceived attachments to mothers and fathers. Rice (1990) speculated, for instance, that college students' attachments to parents jointly and separately may be affected by such issues as stressors during the semester, year in school, and age of the student.

In a related finding in the present study, it is interesting that significant differences emerged between the traditional-age college group and the non-traditional age college group for Mother Attachment. The significant differences in means between the two groups suggest that young adult offspring-mother bonds tend to lessen in intensity with age of the individual. This finding is similar to the bulk of literature which has reported that people tend to transfer much of their affectional interests from parents to intimate relationships. Notably, many students in the non-traditional-age group (n = 21; 65.6%) were in committed intimate relationships, compared with their younger counterparts (n = 202; 55.8%).

Ancillary Question Two

There were no observed differences between college men's and women's composite scores on positive explanatory style and negative explanatory style. The finding of the present study is in accord with results of other studies that also document no observed differences among women and men college students on positive-negative explanatory style, and on overall explanatory style (Bunce & Peterson, 1997; Fletcher, Fitness, & Blampied, 1990; Geer, Reilley, & Dember, 1998; Greenberger & McLaughlin, 1998; Hjelle, Busch, & Warren, 1996; Kennedy, 1999; Kessler, 1984). However, these similar findings reflect findings that are quantitative in nature and are drawn from the ASQ assessment of explanatory style. However, data from the qualitative analysis in the present study indicate some significant differences between the sexes on explanatory style. These findings,

as discussed later, also suggest the usefulness of using qualitative methodologies to tap explanatory style in order to reveal finer-grained distinctions on how men and women explain personal experiences.

Ancillary Question Three

Observed sex differences were mixed on comparisons of women and men on empathy indices. Mean scores on Perspective-Taking were nonsignificant between women and men. However, significant differences were indicated on women's and men's scores for Empathic Concern and Personal Distress (see Table 12), which resulted in large and medium-large effects sizes, respectively. Women scored higher on both indexes of empathy. Notably, the findings replicated previously reported patterns for women and men on emotional and cognitive empathy. Davis (1980) reported a similar pattern of comparisons of women's (N = 53) and men's (N = 56) empathy scores, with women scoring lower on Perspective-Taking, but scoring significantly higher on Empathic Concern and Personal Distress than men did. A similar trend has been reported among high school girls and boys on the IRI scales (Davis & Franzoi, 1991). These findings are in keeping with Hoffman's (1977) reports that females tended to score more highly on affective measures of empathy than males, while no observed sex differences were indicated on role-taking measures. Hoffman, however, theorized that young boys and girls do not tend to differ in emotional and cognitive empathy. Rather, he speculated that increased age and socialization effects resulted in females tending to be more affectively empathic than males, and that observed differences become more pronounced as women and men enter late adolescence and young adulthood.

Ancillary Question Four

An original aspect of the present study, which has not been done by previous studies, was the qualitative analysis of the written responses of college student participants on the ASQ Interpersonal situations and Achievement situations. No previous theory provided a basis for interpreting the endorsed causes provided by the participants, except in the case of the attributional dimensions themselves. In the present study, however, the intension was not to code for the dimensions, but to identify any overarching themes among the free responses.

Although no theory provided a basis for identifying or interpreting the themes that emerged, the resulting patterns between women's and men's free responses, while largely similar, do suggest three areas of consideration. Firstly, the results revealed that by far the greatest tendency was to attribute causes to one's behaviors. This pattern held for the total group and for the paired groups of women and men. Thus, all participants judged the causes of many situations to be related to things they actively did, even in the face of

other available explanations. Collapsing across the positive-negative Achievement situations and positive-negative Interpersonal situations, a total of 58% of the time all participants attributed their actions (Self-Behaviors) to explain all the situations. There was some variation between women (57.8%) and men (59.6%) in this type of cause.

Secondly, summing across all types-valences of situations men's written responses focused more on self-attributes and personal behaviors than women's response patterns did (see Table 14). This pattern among men held for every valence and type of situation with the exception of negative Achievement situations in which women wrote on average (65.1%) more personal behaviors than men did (57.2%). These latter findings link with a large literature on gender bias and achievement-based attributions that indicates that men and women are socialized to explain their successes and failures in different ways (c.f., Dweck & Leggett, 1988; Frieze, Parsons, Johnson, Ruble & Zellman, 1978).

Thirdly, in contrast, women's causes were characterized as interpersonal in nature with more causes for Other's-Behaviors and Relationships than men's interpersonal responses were. Women were especially inclined to write about more relationship-based causes in positive-negative Interpersonal situations than men were. Overall, women consistently wrote in more causes related to other people's behaviors across all valences and types of situations than men did. Thus, women demonstrated more of an other-focus than men who seemed more fixated on their own traits and behaviors as causal explanations.

It is important to observe that men also endorsed a considerable amount of relationship-based causes for situations, albeit less than women did. In fact, relationship issues became the third most endorsed cause for negative Interpersonal situations for women and men combined. For men, and especially for women, Relationships was a viable explanation for situations analogous to real-life experiences. This finding seems normative for a sample of traditional-age college students who may be focused developmentally on interpersonal/intimacy issues. While men tended to focus most of their causes on themselves, this does not diminish the fact that men in this study also endorsed relationship-based causes. Based on the present findings, the prevailing stereotype does not hold that young adult males are not oriented to relationship considerations. The findings also link with a wealth of literature that indicates that women tend to be more interpersonally-oriented. Therefore, the present findings also offer the new possibility that causal attributions among young adult women, in particular, may take a decidedly relational direction. This is important especially in that explanatory style and

causal attributions, per se, are often grounded theoretically in individual psychology and not in interpersonal psychology that considers that people may interpret their experiences amidst a backdrop of interpersonal relationships.

The causal themes that emerged from the written responses suggest some useful ways to view explanatory style in addition to the attributional dimensions. In light of the findings, it appears that there are important differences and similarities in explanatory style between these groups of young adult women and men. Men are concerned with issues of autonomy and individuality to explain their situations. Women, and to a lesser degree men, identify relational causes to explain events. Further, the results indicate the likelihood that explanatory style is much more highly individual and idiosyncratic, such that a clear picture of one's explanatory style would be more likely clarified in an interview setting. It is important for counselors and other professionals to appreciate the implications of stylistic differences and similarities in explanatory style between young women and men, who also may focus on interpersonal relational explanations in making causal attributions.

Conclusions

Foremost, the study has provided additional support that psychological adaptation is founded on primary interpersonal relationships. Counselors who consider psychological development in interpersonal terms may find evidence from the present study useful for strengthening their conceptualization of individual development and dysfunction as interpersonal in origin. Viewed from this framework, counselors may be able to consider that primary attachment relationships comprise a framework of relational schemas that influence and even bias one's interpersonal style and self-perceptions (Lopez & Brennan, 2000).

Secondly, it is important for counselors to help their young adult clients to discuss their personal history in terms of their perceived attachment relationships to mothers and fathers, or persons who acted as their mothers and fathers. Based on the findings of the study, it is possible that perceived attachments to mothers and attachments to fathers may have differential effects on young adult psychological adaptation. It is especially important that clinicians consider and explore the extent of the father-child relationship. It is conceivable from the findings of the study that attachments to fathers have specific effects on psychological adaptation that are separate from attachments to mothers.

Finally, counselors may use the counseling relationship as a primary positive counter-transference intervention to enable clients to explore their early attachment histories to their mothers and fathers, as well as

their present interpersonal relationships. The counseling relationship may be the dyadic here-and-now context for clients to safely identify patterns in their own explanatory style and empathic functioning that are linked to relationships with key persons in their lives.

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